

# Interaktion

**INTERAKTION: Users' Group for the Interak Computer.**

Newsletter Number 5  
Published March 1984

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## Editor's Letter

March 1984

Dear Members,

It's here again - your newsletter. This time the emphasis seems to be on the software side. The introduction of Megabug, reviewed in this issue, and Fig Forth have again proved (if it needed proving) just how flexible a machine INTERAK is. I can see that if this keeps up we will soon have as much software as any machine on the market. Please keep it coming in, it may be worth your while as Greenbank are sponsoring a competition details of which may be found in this issue.

Some of the Radio Amateurs who have systems have asked for a list of other Radio Amateurs who are also members of the Interaktion User Group. I would like to compile such a list and perhaps distribute it to like minded fellows, so if you are interested let me know.

The book library is growing slowly but some new books have been added, so please use it, it's yours. Well I will leave you to enjoy your newsletter - keep your articles rolling in.

Peter Vella

Interaktion User Group - Constitution

1. The aim of the group is to encourage the understanding of the inner workings of computers in general, and specifically the Interak computer(s).
2. A subscription fee is charged, to be paid annually on a specified date, although membership may begin at any time of the year. The fee entitles the member to one year's supply of the "Interaktion" Newsletter, (which it is intended to be published quarterly), use of the Group's Library of books, data sheets etc., any software which can be made available, and also a Hardware "library" (tools, test equipment etc.), if one can be established. For all these services a small additional fee may be charged, so that the few will not be enjoying facilities at the expense of the many.
3. The group will attempt to negotiate special arrangements on any items of hardware or software, to make available things which might not otherwise be available to members (e.g. special Interak versions of well-known software products which can be sold under licence).
4. The group may purchase selected items of hardware or software, to form the basis of newsletter articles, for evaluation purposes, or as demonstration pieces to show to other users or potential users.
5. If the users think it appropriate, stands can be taken at exhibitions, to publicise the system and the group.
6. Similarly, if there is a demand, special trips to exhibitions and the like can be arranged. A social secretary can be appointed if members would like to widen their interests beyond simple Interak matters.
7. Local groups of users can be set up, and regular meetings held if desired, also special interest groups e.g. Radio Amateurs, if there is sufficient enthusiasm.
8. A register can be maintained of "Good Samaritans" who can help new users in difficulties - for example to provide local help to save users the cost of a long distance peak rate call to their supplier.
9. Any other ideas, activities: let me know, I am here to help, we can do whatever the majority want.

Peter Vella

Software Report 1.

## VELTEXT

This is a basic piece of word processing software written specifically for the Interak computer. It works best on a 64 character/line screen where the final printed page will look the same as what you see on the screen.

Veltext provides most of the fundamental word processing functions and is a good way of turning your computer into a tool which will be useful not only to yourself but also to other members of the family.

The features which Veltext has include a full range of cursor control commands, saving to and loading from tape, block copying and insertion. A summary of Veltext commands appears at the end of this review.

Because of the large number of commands needed to provide all the functions included in Veltext it is necessarily complicated to use - but of course there is no way round that. Many of the more sophisticated functions are performed by using a control key - control K or control Q, presenting the user is presented with a menu of options of which he is expected to chose one.

Veltext also provides a means of controlling the more sophisticated functions on printers like the Epson which can be instructed to work in different modes, and to aid tabulation gives a continuous readout of the cursor row and column.

One particular feature of the load command is that it loads named files - the names being a single character - which is useful if you have several files on one tape. If you forget the name of the file then Veltext will find it for you whereupon you can restart the loading procedure.

There are several features missing from Veltext which would make it easier to use although it is not intended to be a sophisticated program. I would like to see line and word delete functions and a simple way of inserting a new blank line. Word wrapping would also be nice but it's not something you can't do without. My version came with a very early sort of prototype manual which didn't have a quick and easy summary of all the commands available; I think this would be a good idea because I keep forgetting them.

**Conclusion.**

In spite of one or two drawbacks I have found that of all my software this is one of the programs that I have used the most and anybody who buys it should find it very useful.

(See next page for Veltext Command Summary)

(Continued from previous page)

## VELTEXT COMMANDS

↑E - cursor up	↑X - cursor down
↑S - cursor left	↑D - right
↑Z - scroll up one line	↑W - scroll down one lines
↑R - scroll up six lines	↑C - scroll down six lines
DEL - delete to the left	↑G - delete to the right
↑P - printer control	↑O - exit to the monitor

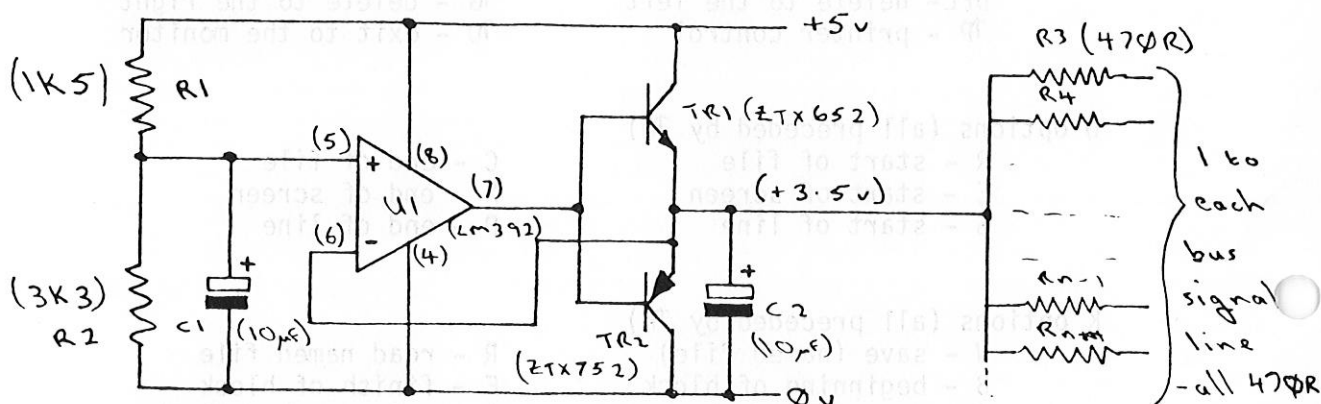
## Q options (all preceded by ↑Q)

R - start of file	C - end of file
E - start of screen	X - end of screen
S - start of line	D - end of line

## K options (all preceded by ↑K)

W - save (named file)	R - read named file
B - beginning of block	F - finish of block
C - copy marked block	P - print marked block
H - hide markers	I - insert mode on/off
D - delete file.	

The following design for an ISBUS Active Terminator by Andrew Chapman is of great interest. His letter below gives other suggestions.



Parts List. - (xx) = used on prototype.

R1/R2	1/4 watt or larger.
R3-Rn	- These can be single or in SIL packs.
C1	10nF to 10 uF ... almost anything will do.
C2	10 uF (any voltage).
U1	- the numbers shown above are for a LM392 but any OP Amp which will work from 5Volts should do ok.
TR1	500 mA (min) NPN eg ZTX650, BC142, BC327
TR2	500 mA (min) PNP eg ZTX750, BC143, BC337

On my Kemitron MZB-4 CPU card I also have a 330R pull-up to +5v for  $\emptyset$  (line A33). With a 6MHZ Xtal and a 6MHZ Mostek CPU and either 64K dynamic RAM or 32K static, this will run for hours and still show no memory faults. I do not use any ROM on my system - I have designed a 2732 PROM simulator using a 150ns RAM with its own single chip micro for control, so I don't know how slow a PROM you can use (in practice rather than theory), but I personally would try to get hold of a 250ns type.

Andrew Chapman.



Software Report 2.

## MEGABUG

Megabug is a fully interactive machine code debugging system which is written for the Interak computer. It will present you with a front panel type display of the Z80's registers which can be modified using cursor commands. You can then execute a program either continuously or in single step mode under the control of Megabug. When running a program under Megabug you can interrupt it at any point simply by pressing the space bar and you will be presented with the Z80 register panel. This is an especially useful feature if you are debugging a program which expects input from the keyboard - just wait for the prompt to appear then interrupt using the space bar and alter the registers as necessary.

Megabug will work on programs which operate on the Interak screen as it uses an auxiliary screen memory area which is copied to the VDU when the object program (the program being debugged) is executing, and back again when Megabug needs it. For this reason Megabug is transparent to any program running under it. It will also work on ROM based programs as it uses a dynamic program execution technique rather than the more familiar method of inserting breakpoints into the actual program code. It also does not require any hardware modifications as it does not need to produce interrupts to perform its single stepping function.

## System Requirements.

Megabug requires a working Interak computer with a 64 char/line VDU occupying addresses F000 to F5FF and an ASCII keyboard on port 40H using bit 7 as a strobe. It will support an optional printer using port 07 as the output data and port 06 as the status port (bit 7 is the ready flag). Megabug resides in memory from B000 to B8E2 and uses memory up to BFFF as workspace and auxiliary screen memory.

Megabug is a valuable addition to your machine code tool kit. It can be used either in the development of your programs or to investigate the workings of any machine code program which you possess. In either case Megabug will make debugging machine code programs both simpler and quicker.

---

BASIC Games (1)

Here is the first of two games that I have written. One is for ZYBASIC the other for the new 14K XTAL Basic.

## HAPPY SUMS

This game is aimed at the younger members of the family, and will help them learn as they play. The control part of the program selects a function ( + or - ) and two numbers. The rest of the program is concerned with presenting larger than life numbers and funny faces. The program is a little slow so be patient.

```

1 DOFF
10 REM *****
11 REM * HAPPY SUMS *
15 REM * BY *
20 REM * P.P.VELLA *
25 REM *****
30 CLS
40 X2=13:Y1=20:GOS.9100
45 PAGE :LINE7:P."GET YOUR SUMS RIGHT"
50 P."AND MAKE ME SMILE"
60 X2=13:Y1=20:GOS.9100
65 LINE 17:P.TAB(6)"GET THEM WRONG"
70 P.TAB(6)"MAKE ME SAD"
75 LINE 22:P."press any key to start"
80 INK.A:IF A=0G.80
100 X2=0:Y=1
150 CLS
200 Y1=1
290 FOR G=1TO3
295 X1=1
300 S=RND(2):R=RND(11):R1=RND(10)
310 N=R-1:N1=R1-1
320 IF (N>N1)+(S=1)G.340
330 IF S=2 N1=R-1
335 N=R1-1
340 IF S=1 GOS.9345
350 IF S=2 GOS.9300
355 R=N:R1=N1
357 IF N<10G.370
358 RESTORE
359 FOR L=1TO35:READ D:N.L
361 FOR X= 45 TO 39 STEP-1
363 FOR Y=5TO 9:READD:IF D=1SET(Y+Y1,X)
365 N.Y
367 N.X
368 N=N-10
370 FOR N2=1TO2
375 RESTORE
380 IF N=0G.400

```



## (Happy Sums Listing Continued)

```

390 FOR L=1TO35*N:READ D:N.L
400 FOR X=46TO40 STEP-1
410 FOR Y=10TO14
420 READD:IF D=1 SET(Y+Y1,X-X1)
430 N.Y
440 N.X
445 X1=10:N=N1
447 N.N2
450 FOR Y2=Y+Y1-12TOY+Y1
455 SET(Y2,28):SET(Y2,18)
460 N.Y2
479 DOFF:PAGE:LINE23:IN."WHAT IS YOUR ANSWER?"A2
480 LINE23:P." "
485 SCROLL:LINE1
490 IF (((S=1)*(A2=R+R1))+((S=2)*(A2=R-R1)))G.520
500 GOSUB 9100
510 G.479
520 REM RIGHT
525 IF A2<10 G.540
527 RESTORE
530 FOR L=1TO35:READD:N.L
532 FOR X=26 TO 20STEP-1
534 FOR Y=5TO9:READ D:IF D=1SET(Y+Y1,X)
535 N.Y
536 N.X
537 A2=A2-10
540 RESTORE
541 IF A2=0G.544
542 FOR L=1TO35*A2:READ D:N.L
544 FOR X=26TO20STEP-1
546 FOR Y=10TO14:READD:IFD=1SET(Y+Y1,X)
548 N.Y
550 N.X
560 GOS.9000
580 Y1=Y1+20
590 N.G
595 FOR W=1TO4000:N.W
600 G.150
2000 S.
3000 DATA 1,1,1,1,1,1,0,0,0,1,1,0,0,0,1,1,0,0,0,1,1,0,0,0,1,1,0,0,0,1,1,1,1,1,1
3001 DATA 0,1,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,1,1,1,0
3002 DATA 1,1,1,1,1,1,0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,1,0,0,0,0,1,0,0,0,0,1,1,1,1,1
3003 DATA 1,1,1,1,1,1,0,0,0,0,1,0,0,0,0,1,0,1,1,1,1,1,0,0,0,0,1,1,0,0,0,1,1,1,1,1
3004 DATA 1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,1,0,0,1,1,1,1,1,1,0,0,1,0,0,0,1,0,0
3005 DATA 1,1,1,1,1,1,0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,1,1,0,0,0,1,1,1,1,1,1
3006 DATA 1,1,1,1,1,1,0,0,0,1,1,0,0,0,0,1,1,1,1,1,1,1,0,0,0,1,1,0,0,0,1,1,1,1,1,1
3007 DATA 1,1,1,1,1,1,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1,0,0,0,0,1
3008 DATA 1,1,1,1,1,1,0,0,0,1,1,0,0,0,1,1,1,1,1,1,1,1,0,0,0,1,1,0,0,0,1,1,1,1,1,1
8009 DATA 1,1,1,1,1,1,0,0,0,1,1,0,0,0,1,1,1,1,1,1,1,1,0,0,0,0,1,0,0,0,0,1,1,1,1,1,1
9000 REM RIGHT
9005 RESTORE

```

## (Happy Sums Listing Continued)

```

9010 DATA 0,0,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,0,1,1,0,1,1,1,1,0,1,1,1,1,1,1,
      1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,1,0,1,1,1,1,1,0,1,1,1,1,1,1,1,
      1,1,0,0,1,1,1,1,0,1,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,0,0
9020 FOR X=16T07 STEP-1
9022 FOR Y=4T0 13:RESET(Y+Y1,X+X2)
9025 N.Y
9027 N.X
9030 FOR L=1T0350:READ D:N.L
9040 FORX=16T07STEP-1
9050 FOR Y=4T013
9060 READ D:IF D=1 SET(Y+Y1,X+X2)
9070 N.Y
9080 N.X
9090 RETURN
9100 REM WRONG
9105 RESTORE
9110 DATA0,0,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,1,0,1,1,0,1,1,1,1,0,1,1,1,1,1,0,
      0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,0,0,1,1,1,1,1,1,0,1,1,0,1,1,1,1,1,
      0,1,1,1,1,0,1,1,0,1,1,1,1,1,1,1,0,0,0,1,1,1,1,1,1,0,0
9115 FOR X=16T07STEP-1
9117 FOR Y=4T013:RESET(Y+Y1,X+X2)
9118 N.Y
9120 N.X
9130 FOR L=1T0450:READ D:N.L
9140 FOR X=16T07STEP-1
9145 FOR Y=4T013
9150 READ D:IFD=1 SET(Y+Y1,X+X2)
9160 N.Y
9170 N.X
9180 RETURN
9300 REM -
9310 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
9315 RESTORE
9320 FOR L=1T0555:READ D:N.L
9325 FOR X=35T030 STEP -1
9330 FOR Y=1T05
9335 READ D:IFD=1SET(Y+Y1,X+X1)
9337 N.Y
9340 N.X
9342 R.
9345 REM +
9350 DATA 0,0,0,0,0,0,0,0,1,0,0,0,0,1,0,0,1,1,1,1,1,0,0,1,0,0,0,0,1,0,0,0,0,0,0,
9355 RESTORE
9365 FOR L=1T0590:READ D:N.L
9367 FOR X=35T030 STEP-1
9370 FOR Y=1T05
9373 READD:IF D=1SET(Y+Y1,X+X1)
9376 N.Y
9378 N.X
9379 RETURN

```

## BASIC Games (2)

The second BASIC program is written for XTAL BASIC and a VDU2K but I am sure it can be modified to suit other formats. You are presented with a maze in three dimensions; you can move forward (F), look to the East (E), look to the West (W), look to the North (N) or look to the South. You start off at the South West of the maze and the hidden exit is at the North East. This game will make you pull out your hair, best of luck.

## CRAZY MAZE

```

10 DIM M(9,9)
20 PRINT :CLS:RESTORE
30 FOR C= 1 TO 30:READ Z:NEXT C
40 FOR Y = 0 TO 9 :FOR X=0 TO 9
50 READ M(X,Y):NEXT X:NEXT Y
60 PX= 0:PY = 0: B=1
70 TX = PX: TY =PY
80 CLS :RESTORE:FOR C= 1 TO 6
90 READ LX,UX,LY,UY,D:MX = TX :MY = TY
100 GOSUB 870
110 F =M(MX,MY):ON B GOTO 120,130,140,150
120 Z=F AND 8: GOTO 160
130 Z=F AND 1: GOTO 160
140 Z=F AND 2: GOTO 160
150 Z=F AND 4
160 IF Z<>0 GOTO 190
170 GOSUB 670
180 GOTO 200
190 GOSUB 760
200 ON B GOTO 210,220,230,240
210 Z=F AND 2:GOTO 250
220 Z=F AND 4:GOTO 250
230 Z=F AND 8 : GOTO 250
240 Z=F AND 1
250 IF Z <> 0 GOTO 280
260 GOSUB 730
270 GOTO 290
280 GOSUB 800
290 ON B GOTO 300,310,320,330
300 Z=F AND 1: GOTO 340
310 Z=F AND 2: GOTO 340
320 Z=F AND 4: GOTO 340
330 Z=F AND 8
340 IF C = 1 THEN BF = Z
350 IF Z <> 0 GOTO 430
360 ON B GOTO 370,380,390,400
370 TX=MX:TY=MY+1:GOTO 410
380 TX=MX+1: TY=MY: GOTO 410
390 TX=MX: TY=MY-1:GOTO 410
400 TX=MX-1:TY=MY
410 NEXT C
420 Z=1:GOTO440

```

## (Crazy Maze Listing Continued)

```

430 GOSUB 840
440 REM
450 IF PY<>9 OR PX<>9 GOTO 490
460 PRINT @4,15;"CONGRATULATIONS YOU MADE IT ";
470 FOR C=1 TO 3000:NEXT C
480 RETURN
490 PRINT@4,1;"POSN ";PX;PY;" LOOKING ";
500 ON B GOTO 510,520,530,540
510 PRINT "NORTH";:GOTO 550
520 PRINT"EAST ";:GOTO 550
530 PRINT"SOUTH";:GOTO 550
540 PRINT"WEST ";
550 INPUT "-DIRECTION ";A$
560 IF A$="N" THEN B=1:GOTO 70
570 IF A$="E" THEN B=2:GOTO 70
580 IF A$="S" THEN B=3:GOTO 70
590 IF A$="W" THEN B=4:GOTO 70
600 IF A$="F" AND BF=0 GOTO620
610 GOTO 70
620 ON B GOTO 630,640,650,660
630 PY=PY+1:GOTO 70
640 PX=PX+1:GOTO 70
650 PY=PY-1:GOTO 70
660 PX=PX-1:GOTO 70
670 FOR X = 1 TO 2*D-1
680 SET LX-X,LY:SET LX-X,UY
690 NEXT X:RETURN
700 FOR X=1 TO 2*D-1
710 SET UX+X,LY:SET UX+X,UY
720 NEXT X: RETURN
730 FOR X=1 TO 2*D-1
740 SET UX+X,LY:SET UX+X,UY
750 NEXT X: RETURN
760 FOR Y=0 TO D-1
770 SET LX-Y*2,LY-Y:SET LX-Y*2-1,LY-Y
780 SET LX-Y*2,UY+Y:SET LX-Y*2-1,UY+Y
790 NEXT Y:RETURN
800 FOR Y = 0 TO D-1
810 SET UX+Y*2,UY+Y:SET UX+Y*2+1,UY+Y
820 SET UX+Y*2,LY-Y:SET UX+Y*2+1,LY-Y
830 NEXT Y:RETURN
840 FOR X=LX TO UX
850 SET X,UY:SET X,LY
860 NEXT X:RETURN
870 FOR Y =LY TO UY
880 SET LX,Y :SET UX,Y
890 NEXT Y :RETURN
900 DATA 6,85,2,40,3
910 DATA 17,74,7,35,6
920 DATA 25,66,11,31,4
930 DATA 33,58,15,27,4
940 DATA 39,52,18,24,3
950 DATA 43,48,20,22,2

```

## (Crazy Maze Listing Continued)

960 DATA 12,5,4,7,12,4,5,5,5,6  
 970 DATA 10,12,2,12,3,8,4,4,6,11  
 980 DATA 8,2,8,1,4,2,10,10,9,6  
 990 DATA 10,10,8,6,10,10,8,1,7,10  
 1000 DATA 9,3,10,10,8,2,9,6,12,3  
 1010 DATA 12,5,3,10,10,10,12,3,9,7  
 1020 DATA 10,12,4,3,8,1,2,12,5,7  
 1030 DATA 10,10,10,12,1,6,11,10,12,6  
 1040 DATA 10,10,9,2,12,2,12,2,10,10  
 1050 DATA 9,1,7,9,3,9,3,9,3,11

## Conditions:

1. The prizewinners must be published in the Interaktion Newsletter.
2. The software must be made available for distribution to other users, at a price to be agreed, or preferably simply for the cost of distribution.
3. The prize can be exchanged for another board by an Interak supplier, at the supplier's option. It cannot be exchanged for goods or credit. (It can of course be sold or given away.)

## Prize Number 1

The prize is a PBM-64 Data Board, (value £125 V.A.T.), awarded to the contributor of:

## Crazy Maze Game for Crystal BASIC 64.

Judge's Comments: After all I said about games and how boring they are! This one had me hooked - before I knew it, I'd got out my pencil and paper and was drawing a plan of the maze, and I couldn't stop until I'd solved it. What did I do then? - Went straight back in for another go! Good use is made of the elementary (but) graphics to draw a surprisingly realistic three-dimensional sketch of a maze, which looks like corridors through which the way has to "walk" - a realistic simulation of the integral architecture of our most modern office buildings.

## Note from Greenbank:

The contributor of the above implementation of this popular game turned out to be none other than our old friend Para Valla, but this was not known at the time. Although there is nothing in the rules to say he can't have the prize (in fact in view of the work he puts in he actually deserves a higher prize than anyone), he has graciously declined to accept it because it sounds like a "fix". (We'll use the money to buy postage stamps for the next group instead.)

COMPETITION ANNOUNCEMENT

In order to encourage users to send in to the Interaktion User Group examples of software they have written, developed, or implemented for the Interak Computer, a small prize has been offered by Greenbank Electronics. (The work need not be original or unpublished, but don't send in anything which will result in your going to gaol!)

Up to one prize a month will be offered, until further notice, and each will be an Interak Bare Board. In the absence of entries of sufficient merit (as judged by Greenbank Electronics) the prize will not be awarded, and exceptionally more than one prize per month will be given.

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DMP



## FOR SALE

Dear Peter,

As suggested some time ago I am writing to you with details of my INTERAK system that I would like to sell.

I would very much like to sell the whole system as a complete unit as the individual components are now of no value to me. The system details are as follows:-

1. MZB-3 CPU BOARD
2. VDU-K VIDEO BOARD
3. 2 off DYNAMIC RAM
4. 16K CMOS STATIC RAM
5. KEYBOARD INTERFACE
6. HALL EFFECT SWITCH PROFESSIONAL QUALITY KEYBOARD
7. TAPE INTERFACE FOR TAPE SYSTEM BELOW
8. RACAL COMPUTER TAPE DECK
9. 10A POWER SUPPLY
10. ALL HOUSED IN STEEL CABINET WITH ALUMINIUM CARD FRONTS.

The back plane houses 6 Kemitron type edge connectors and 4 sockets for the static RAM, tape interface and keyboard interface. All is in working order but the tape interface does require some sorting. (It probably only needs one new chip.)

I think that the whole lot is worth about £200; I have not given any thought to the price of individual parts but if there is a good response then I will split if most parts will go.

Many thanks for your help in the past and for your offer to advertise my gear.

Best wishes for the future and I look forward to the flood of replies.

Paul Stevens, 41 Grove Road, Nottingham.

## FOR SALE

Interak 1 for sale.

VDU-K  
ISBUS-1.1  
MZB-3 + ZYMON 2  
MXD-2  
LKP-1

Offers for the above to: Mr S. Hall, 69 Buckingham Road, Maghull,  
Merseyside. L31 7DN Telephone: 051-531 0926

## FOR SALE

New additions to the stock range at Greenbank Electronics.

New Printers:

EPSON RX80: 100 characters per second

EPSON FX80: 160 characters per second

Both types have a 12 month guarantee, and a reputation for excellent performance and reliability. EPSON sets the standard, which is confirmed by the observation that less well known printer manufacturers make theirs "EPSON Compatible". The RX and FX models supercede the well known MX model; the RX has fewer features than the old MX, the FX has all the MX features and extra ones (not least the speed improvement).

A great benefit of buying a well-known make is that spares, ribbons etc. are widely and cheaply available.

Ribbons for Epson Printers:

The Epson FX, RX and MX printers all have the same ribbon cartridge with a life of about 3 million characters; spares are available from Greenbank for a few pounds.

Fanfold Paper

9.5" x 11" (For EPSON MX80, RX80, FX80 etc.)

Bulk boxes of 2000 sheets.

Croxley brand, wood-free 60 gsm. Plain or music ruled. Perforated.

(Wood-free paper is preferred for printers because it produces a lot less dust or "paper fluff" which can clog up the printing head and mechanism in a printer.)

## SOFTWARE LIBRARY

(Please enquire for cost of postage, and items marked POA)

NAME	DESCRIPTION	AUTHOR	CODE	SUPP.	FORMAT	COST
ZYMON 2	INTERAK monitor	BE	MC	GB	A	GB
ZYBASIC 2	INTERAK BASIC	NK	MC	GB	A	GB
ZYMON 2	INTERAK monitor	BE	MC	UG	C	POA
ZYBASIC 2	INTERAK BASIC	NK	MC	UG	C	POA
XTAL BASIC	14K BASIC	XL	MC	UG	A,C	£40
FIGFORTH	Forth Compiler	CD	MC	UG	A,C	£15
ASM 32	Editor Assembler	NK	MC	UG	A,C	£10
HC DISASS	Simple Disassembler	HC	MC	UG	A	£3
REVAS	Better Disassembler	DP	MC	UG	A	POA
MEGABUG	Debug/Training Package	RO	MC	UG	C	£13
VELTEXT	Text Editor	PV	MC	UG	A,C	£5
Lander	Lander Game	PV	XL	UG	C	} PP
Towers	Towers Puzzle	PV	XL	UG	C	
Crazy Maze	"3D" Maze Game	PV	XL	UG	C	
Avalanche	Blob Dodging Game	DB	ZB2	UG	A	PP
Monster Mash	Maze Game	BE	ZB2	UG	A	PP
Graph	Graph Plotter	MC	ZB2	UG	A	PP
Rakovsky	Chess Game	NK	MC	UG	A,C	} £3
AC10.XX	(Chess Character EPROM for VDU-K)	-	UG	A,C		
Happy Sums	Fun maths	PV	ZB2	UG	A	PP
Hangman	Spelling game	PV	ZB2	UG	A	PP
O's and X's	Game	PV	ZB2	UG	A	PP
Pools Pick	Random Draw Selector	PV	ZB2	UG	A	PP
Count	Learn to count	PV	ZB2	UG	A	PP
Dice Pontoon	Simple Game	PV	ZB2	UG	A	PP

Key: MC machine code. ZB2 ZYBASIC. XL X/TAL BASIC. GB Greenbank. UG User Group. PP Postage & Packing. POA Please enquire (Price on Application).

Formats: A = 32 x 24 VDU-K, B = 64 x 16, C = 64 x 24 (VDU-2K)

(Orders and enquiries to Interaktion User's Group  
C/o Pete Vella)

## INTERAKTION BOOK LIBRARY

This new section is to give members access to a wide range of books on computing and electronics. The only cost to the member is that of postage. Books may be borrowed for up to 3 weeks, and are available from the User Group address. Member Dick Bowyer is acting as librarian for now. At present the books available are:

<u>Title</u>	<u>Author/Publisher</u>
LANGUAGE BOOKS	
TRS 80 Assembly Language Programming	Radio Shack
Z80 Assembly Language Programming Manual	Zilog
A Course in Basic Programming	Sinclair
Making the Most of your ZX 80	Tim Hartnell
30 Hour Basic	C.Prigmore
Basic for Home Computers a Self-Teaching Guide	B.Albrecht, L.Finkel & J.Brown
Course in Standard Coral 66	J.D.Halliwel & T.A Edwards
Simple Pascal	J.McGregor & A.Watt
Lecture Notes in Computer Science Pascal User Manual and Report	K.Jensen & N.Wirth
DATA BOOKS	
Mostek 1982/1983 Microelectronic Data Book (memory/CPU/Peripherals)	Mostek
Memory Data Book and Designers Guide 1980	Mostek
Bytewyde Memory Data Book 1981	Mostek
National Semiconductor Memory Data Book 1980	National
National Semiconductor Interface Data Book 1980	National

<u>Title</u>	<u>Author/Publisher</u>
DATA BOOKS (continued)	
TTL Data Book	National
The European Selection (memory/interface/linear)	Motorola

## GENERAL &amp; ELECTRONICS

Computer Technology for Technicians and Technical Engineers Vol. 1	R. Watkin
Electronic Computers Made Simple	H. Jacobowitz
Test Instruments for Electronics (how to build test instruments)	M. Clifford
Practical Test Instruments You Can Build	W. Green
How to Troubleshoot & Repair Electronic Test Equipment	M. Horowitz
Computers and the Social Sciences	A. Brier & I. Robinson

## MANUALS etc.

Epson MX-80 Type II Operation Manual	Epson
Newbury 8000 Series VDU Terminal Operator Instruction Manual	Newbury Labs
Electronics Projects Index (A descriptive guide to 2500 projects published in popular magazines. Quite old now.)	Polytechnic

## NEW ADDITIONS

Why Do You Need a Personal Computer?	Leventhal & Straffars
Computer Programming in the Classroom	B.J.Jackson
TABS Accounting Business Systems User Guide Vol 1	TABS

Title

Author/Publisher

NEW ADDITIONS (continued)

Easy Add-on Projects for Spectrum,  
ZX-81, Jupiter Ace

Owen Bishop

6502 Games

Rodney Zaks

All books have been donated by users (a lot from Greenbank). If you have any books etc. surplus to requirements please let me have them.

Richard Bowyer

Book Librarian  
INTERAKTION Users' Group